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THE COST EFFECTIVENESS OF PLATELET RICH PLASMA VERSUS CORTICOSTEROIDS IN THE TREATMENT OF LATERAL EPICONDYLITIS

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OBJECTIVES: To analyze the cost effectiveness of platelet rich plasma versus corticosteroids in the treatment of lateral epicondylitis in a Norwegian setting. **METHODS:** A probabilistic Markov model was developed in Microsoft Excel, based on clinical data from two papers reporting results from a randomized double blind clinical trial comparing the effect of platelet rich plasma (L-PRP, n=49) to corticosteroids (CCS, n=51) as treatment of lateral epicondylitis (Peerbooms et al 2010, Gosens et al 2011). The primary outcome of these papers, were Disability of Arm, Shoulder and Hand (DASH) and the Numerical Pain Visual Analogue Scale (NPRS-VAS). The study which was conducted in The Netherlands, showed statistically significant differences on the visual analogue scale and the DASH in favor of L-PRP after 6, 12 and 24 months. In order to make a cost utility analysis, the VAS-scores were mapped to EQ-5D, using the method suggested in Dixon et al 2011. In this study the derived utility values for a series of EQ-5D health states replaced the pain value with the NPRSVAS, thereby allowing a greater range of pain intensities to be captured and included in economic analyses. This raises an issue regarding transferability of QALY-values. Nord E. 1991 concludes that QALY-values elicited in Norway, The Netherlands, England or Sweden can be used for medical decision making purposes in any of the other three countries. **RESULTS:** The results show an incremental cost effectiveness ratio of € 5 000 per QALY. This is well within what is considered cost effective in Norway. The probabilistic analysis demonstrates that the probability of L-PRP being the cost effective alternative is as high as 99% even when the willingness to pay for additional QALY is as low as € 13 000. **CONCLUSIONS:** Compared to corticosteroids, treating lateral epicondylitis with L-PRP represents the cost effective treatment strategy in Norway.

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COST-EFFECTIVENESS OF SACRAL NEUROMODULATION IN THE TREATMENT OF IDIOPATHIC WET REFRACTORY OVERACTIVE BLADDER IN ITALY

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OBJECTIVES: The purpose of this study was to estimate the cost-effectiveness of two therapeutic strategies starting either with Sacral Neuromodulation (SNM) or Botulinum Neurotoxin A (BTX-A) in the treatment of overactive bladder (OAB) wet in Italy. **METHODS:** A 10-year decisional model was developed to assess costs and outcomes (Quality-Adjusted Life Years – QALYs – gained) associated with the two pathways from the perspective of the Italian National Healthcare System (INHS). Clinical inputs were derived from the literature review and validated by key clinicians in Italy. Unit costs were derived from public sources. Costs for hospital procedures and inpatient stay were derived from one of the centres involved in the study to reflect real costs incurred for SNM implant. Univariate sensitivity analyses (DSA) were conducted to determine whether results were insensitive to variations in uncertain parameters. Probabilistic sensitivity analyses (PSA) were performed to derive cost-effectiveness acceptability curves. **RESULTS:** Preliminary results showed that at 10 years SNM is a cost-effective strategy. Cumulative costs were €33,897 and €33,572 while cumulative QALYs were 7.55 and 6.80 for SNM and BTX-A respectively. A 4% decrease of incontinence episodes was also observed for SNM compared with BTX-A. DSA demonstrated the robustness of the results. PSA results suggested that 99.9% of the 1000 Monte Carlo iterations fell within a €30,000 cost-effectiveness threshold considered acceptable for a marginal unit of effectiveness. **CONCLUSIONS:** A therapeutic strategy starting with SNM compared to one starting with BTX for patients with idiopathic OAB-wet is cost-effective for the Italian INHS.

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COST-EFFECTIVENESS OF CATHETER ABLATION VERSUS ANTIARRHYTHMIC DRUG THERAPY FOR THE TREATMENT OF ATRIAL FIBRILLATION IN THE UK

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OBJECTIVES: Atrial fibrillation (AF) is a chronic, progressive disease characterized by uncoordinated atrial activation involving a rapid and irregular heartbeat. Its prevalence has been increasing worldwide. Antiarrhythmic drug therapy is a commonly-used treatment for paroxysmal AF, and catheter ablation has become an important treatment alternative. The purpose of this study was to assess the cost-effectiveness of catheter ablation compared to antiarrhythmic drug (AAD) therapy for the treatment of paroxysmal AF in the UK. **METHODS:** A Markov simulation model was developed for a hypothetical cohort of 55-year-old patients with drug-refractory paroxysmal AF and a low stroke risk. The model treatment arms were catheter ablation and AAD mono-therapy. The model was created to assess the costs and quality-adjusted life-years over a lifetime horizon. Clinical efficacy of catheter ablation and AAD therapy were modeled based on the results of a recently published randomized controlled trial (Wilber et al., 2010). Utilities and other transition probabilities were drawn from the published literature. Costs were specific to the UK. **RESULTS:** The incremental cost-effectiveness ratio for catheter ablation versus AAD therapy ranged from £12,500 to £15,300 per quality-adjusted life-year. Over a lifetime horizon, the quality-adjusted life expectancy ranged from 11.75 to

12.20 years for catheter ablation compared to 11.00 to 11.35 years for AAD therapy. Model results were most sensitive to ablation costs, probability of successful ablation treatment, probability of revision to AF, and probability of successful AAD therapy. **CONCLUSIONS:** Catheter ablation appears to be cost-effective compared to AAD therapy among patients who had drug refractory paroxysmal AF in the UK population when using a cost-effectiveness threshold of £20,000.

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A FIVE-YEAR MARKOV MODEL EVALUATING THE COST-UTILITY OF NASHA/DX FOR THE TREATMENT OF FECAL INCONTINENCE: A UNITED STATES PERSPECTIVE

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OBJECTIVES: To estimate the costs and outcomes associated with the treatment of NASHA/Dx (Solesta®) for fecal incontinence (FI) compared with sacral nerve stimulation (InterStim®) and anal sphincteroplasty. **METHODS:** A five-year Markov model was developed to analyze the cost-utility associated with: 1) NASHA/Dx; 2) sacral nerve stimulation (SNS); and 3) anal sphincteroplasty (AS) after failure of conservative therapy. Costs and outcomes were based on the published literature and other public sources. Costs and QALYs were discounted at a rate of 3% annually. Probability sensitivity analyses were used to estimate the robustness of the base case and scenarios. The probability and utility variables were modeled as beta-distributions; costs were modeled as lognormal distributions. One-way sensitivity analyses were used to evaluate the impact of variations related to key cost variables. A willingness-to-pay (WTP) analysis was conducted for a threshold of twice the US GDP per capita; cost-effectiveness acceptability curves were constructed. ICERs less than the specified threshold are considered cost-effective. **RESULTS:** The base case Markov model yielded an incremental cost-effectiveness ratio (ICER) for NASHA/Dx vs. conservative therapy (CT) of \$30,123 / QALY (Quality Adjusted Life Year). The ICER for SNS vs. CT was \$51,187 / QALY; the ICER for AS vs. CT was \$56,564 / QALY. A sensitivity analysis for the long-term effectiveness of NASHA/Dx resulted in an ICER of \$40,327 for NASHA/Dx vs. CT. Probabilistic sensitivity analysis demonstrated that NASHA/Dx was cost-effective for 78% of the simulations at a threshold of \$70,654 / QALY gained. **CONCLUSIONS:** For FI patients, NASHA/Dx has demonstrated cost-effectiveness. Due to higher acquisition costs, SNS and anal sphincteroplasty were associated with larger ICERs. Sensitivity analyses indicated NASHA/Dx was cost-effective under all scenarios modeled. WTP analyses demonstrated that NASHA/Dx was highly probable to be cost-effective in the US context.

PMD71

THE SWITCH STUDY: THE IMPACT OF CONTINUOUS GLUCOSE MONITORING ON HEALTH CARE RESOURCE UTILIZATION

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OBJECTIVES: To evaluate the metabolic effect of adding continuous glucose monitoring (CGM) to insulin pump therapy and the impact of CGM on medical resource utilization. **METHODS:** Eighty-one adults & seventy-two children with Type 1 diabetes participated in a multicenter, randomized, controlled, cross-over study. Following a one month run-in period, subjects were randomized to CGM Sensor-ON or Sensor-OFF arms for six months, following a four month wash-out period subjects crossed over to the other treatment arm for six additional months. Health care resources utilization data was collected for both arms at baseline and at each study visit. **RESULTS:** Sensor use significantly improved glycemic control resulting in an HbA1c reduction of -0.43% in the intention to treat population. There was no statistically significant difference in the average total daily amount of insulin used between Sensor-ON and Sensor-OFF groups both in children or adults. There were statistically significant reductions in the average weekly number of finger-prick tests observed in Sensor-ON vs. Sensor-OFF period (-3 tests/week in adults and -5 tests/week in children,) resulting in 140€ (adults) and 234€ (children) yearly cost reduction. There was no significant difference in the number of diabetes related hospitalizations but the duration of the stay tended to be less with Sensor-ON vs Sensor-OFF (Adults: 2.2 vs 2.5 days and Children: 1.5 vs 2.0 days). In the per-protocol population children missed significantly less days of school during the Sensor-ON vs. Sensor-OFF periods (13 vs 42 days, p=0.0046). **CONCLUSIONS:** Adding CGM to pump therapy significantly improved metabolic control in adults and children, without increasing insulin dosage and concomitantly reducing the number of finger-prick tests. Using the sensor five or more days per week significantly reduced absence from school in children with type 1 diabetes.

MEDICAL DEVICE/DIAGNOSTICS - Patient-Reported Outcomes & Patient Preference Studies

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THE USE OF MULTI-CRITERIA DECISION ANALYSIS TO ELICIT COLORECTAL CANCER SCREENING PREFERENCES

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OBJECTIVES: Despite the expected health benefits of colorectal cancer screening